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ABSTRACT

The manual describes seven tools for use in screening and assessing the developmentally disabled infant and young child in the home. Instruments are said to have met four criteria (easy adaptation to the home setting, minimum training required to administer, speed of administration, and minimum equipment needed). Five categories of information are addressed for each instrument: basic information (title, authors, publication date, publisher, purpose, age, application, screening or assessment use, areas assessed, standardization, reliability, validity, and criteria for referral); administration and scoring; time required for administration; training required for administration and interpretation; and advantages/disadvantages of the tool. The following instruments are analyzed: Denver Developmental Screening Test; Developmental Screening Inventory; Nutrition/Feeding Screening; Early Intervention Developmental Profile; Callier-Azuza Scale; Milani-Comparetti, Gidoni Developmental Chart; and Home Observation for Measurement of the Environment. (CL)

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SCREENING AND ASSESSMENT TOOLS

A manual discussing appropriate tools for use in the home setting

by

The Family Centered Program on Intervention

Nisonger Center
for
Mental Retardation and Developmental Disabilities

The Ohio State University
Columbus, Ohio

1980

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PREFACE

Family Centered Program on Intervention Project (FCPI) is an outgrowth of Family Centered Practicum for Developmental Disabilities Project (FCP-DD) and, as such, has adopted many of the philosophies FCP-DD acquired during its five years of working with and learning from families. FCPI was funded by H.E.W., Division of Associated Health Professions, to produce materials which will aid the student and professional in working with the family within the home setting.

The professional is seen in a supportive role to parents, who are viewed as the primary caregivers in fostering the growth and development of their children. The professional assists parents in becoming effective teachers of their developmentally disabled child. It is in this climate that the professional shares his expertise with the family.

Six content areas were identified in order to produce training materials which cover the broad range of skills necessary to the individual working with families within the home. These content areas are:

1. OBSERVATIONAL SKILLS
2. SOCIAL-EMOTIONAL ASPECTS
3. ENVIRONMENTAL FACTORS
4. INTERPERSONAL COMMUNICATION AND RELATIONSHIPS
5. SCREENING AND ASSESSMENT
6. ACTIVITIES IN THE HOME

Five categories of content are included within each area: generic knowledge, assessment, development of treatment, implementation of treatment, and evaluation. The instructional materials are presented in modular form to faciliatate presentation in a variety of teaching settings.

ACKNOWLEDGEMENTS

The staff of Family Centered Program on Intervention wishes to acknowledge the help of many professionals who contributed invaluable input and time to the development of this manual. Grateful thanks is extended to Lynn Allen and Debbie Arms who shared with us their knowledge of screening and assessment tools. Thanks, also, to Betty Whittle - Kozlowski and Katy Kram for reviewing the Nutrition/Feeding Screening section. A special thanks is extended to Bonnie Ritchie, et al., authors of Manual of Assessment Instruments for the MR/DD Population, who allowed us to utilize much of their information in the development of the evaluations. Acknowledgement is extended to the Nisonger Center for Mental Retardation-Developmental Disabilities for their continuing support and encouragement of all activities of the Family Centered Program on Intervention.

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FIELD TEST

The manual, "Screening and Assessment Tools" has been pilot tested and found to be a valuable learning tool for students and professionals interested in home-centered care. The manual will be field tested and data checked related to the quality of its effectiveness.

SCREENING AND ASSESSMENT TOOLS

A manual discussing appropriate tools
for use in the home setting

Introduction

Developmental screening and the assessment of the developmentally disabled infant and young child is a necessary and continuous process. It is essential for those professionals and students who work with children and their families in the home setting to be able to select and utilize those screening and assessment tools which are most suitable for the home setting. This manual contains a descriptive evaluation of seven tools which are either specifically designed for or easily adapted to the home setting.

There were four basic criteria which were used to determine which tools should be included in the manual. The following defines those four criteria:

1. The tool should be easily adapted to the home setting;

2. The tool should not require extensive training to administer. Individuals from a variety of relevant disciplines should be able to administer it with little training. This is an especially important consideration since professionals and students involved in home centered care often have a variety of backgrounds and training;

3. Most tools included should take less than one-and-one-half hours to administer. This time factor approximates the maximum time frame that one home visit may require;

4. Tools were included which required only a minimum of readily available and easily transported equipment and material items. In most instances, the home visitor is responsible for transporting all equipment and materials required for the screening and/or assessment.

When evaluating the child in the home setting the professional should not overlook the subtle advantages that the home setting offers. The presence of the parent(s) during an assessment done within the home is a most valuable source of input, as they are obviously the experts on their own child's behavior. In addition, the home provides the most comfortable setting for the young child. In his own territory, the child is more likely to exhibit typical behaviors which might be inhibited in an unfamiliar or more structured setting. Thus, the person doing the assessment receives a more realistic picture of the child's abilities and disabilities. It is also possible for the observant home visitor to discern relevant environmental factors found within the home which can contribute to effective programming or which can be modified to facilitate the child's development.

As the title of this manual implies, both screening and assessment tools are examined. It should be noted, at this time, that there is a distinct difference between the two. In order to properly utilize the material presented in the manual, the difference should be clarified. Screening tools are "relatively short, of a surface nature, and indicate the possibility of a variance in development." [1] Generally, administration of a screening tool would be the first step in determining the strong and weak areas in a child's development. When results from the screening tool indicate that the child has a delay in development, referral should be made to an appropriate discipline for follow-up care. In addition, abnormal results on a screening tool indicates the need for a more in-depth assessment of the child which, most probably, will be completed by the most appropriate discipline. An assessment tool, by comparison, is "more lengthy, of an in-depth nature, and analyzes the problems and makes differentiations not (based) on screening results." [2] Results obtained from an assessment tool assist the professional to pinpoint more exactly the needs of the child so that proper treatment may be initiated with the child and family.

Many of the screening and assessment tools described in this manual were standardized on populations of children who did not have developmental delays. It is therefore important to remember that children with disabilities who are tested m fall behind the established "norms" in some tools. However

it should be remembered that all children will follow a sequence of development, i.e., they generally will progress in a logical pattern from one skill to another. Therefore, it may be very significant to follow the manner in which they acquire new skills.

This manual contains a sampling of the most current tests in high use at the time of publication. Included are both normative and criterian referenced tests. No attempt has been made to endorse one method over the other. It is more important to look at the purpose for testing rather than the scoring method when selecting an appropriate tool for home use.

Format of Manual:

Within the evaluation of each tool information is organized in the following order: (1) a face page including title, authors, date of publication, publisher, purpose, age, application, screening or assessment use, areas assessed, standardization, reliability, validity, and criteria for referral, (2) administration and scoring, (3) time necessary for administration, (4) training necessary by the home visitor to administer or interpret results, and (5) editorial comments on advantages and disadvantages of the individual tool. Much of this information is additionally available in a chart (p. 61) which can be used as a quick reference for individuals who need to know the "vital statistics" of a certain tool. It may further assist the professional to identify which tool is appropriate for each particular child she is examining. It should be noted, however, that materials required for each tool are not listed with the evaluation of the tool. Many of the tools required similar materials. Additionally, not all materials need to be utilized each time the test is administered. The following is a general list of materials which are required by various tools.

Red wool	Round embroidery hoop
Raisins	Aluminum cup
Rattle	Child's picture book
One-inch square blocks	Large crayon and paper
Small bells	Small doll with bottle & chair
Tennis ball	Tricycle
Pencil	Toy Car
Push toy	Sponge

Note that all these materials are readily available and easily transported. It is stressed that prior to administration of the tool, the professional has the responsibility to review the section of the tool to be utilized and discern which specific materials are required.

Intended Audience:

This manual was designed specifically for students and professionals who are working with children and their families in the home setting. Unlike other instructional packages developed by FCPI, this piece was intended to be used independently. It was not designed specifically for use in a workshop or classroom setting. Rather, it was developed to be used as a reference manual which students and professionals could utilize when they want to obtain information about a specific screening or assessment tool. The manual discusses the tools available, but does not actually teach the student or professional how to administer the tool. It was decided that the most effective manner to learn to administer each tool was to actually administer it. Consequently, information contained within the manual should aid the home visitor to select an appropriate tool for the child's needs.

It must be stressed that students and professionals working in home-centered care with children must have a knowledge of "normal" growth and development before they will be able to do effective screening and/or assessment with any tool. The individual should refer to the bibliography on growth and development (p. 67) contained in this manual for selected readings and references to either begin to acquire or supplement that essential knowledge.

Learning Objectives:

Learning objectives are intended to provide those who utilize this manual with statements of knowledge which the user should have after successful utilization. Each learning objective is followed by an Answer Key. Please note that these objectives begin with "5.1.1" because this manual represents the fifth content area identified for production materials (see page ii).

5.1.1 List four criteria which should be considered when selecting a screening/assessment tool which is appropriate for home use.

1. Adaptability to the home
2. Tool easily administered by a variety of disciplines
3. Administration time under 1½ hours
4. Equipment and materials required for administration readily available and easily transported.

5.1.2 Discuss the difference between a screening tool and an assessment tool.

Screening tools are relatively short, of a surface nature, and indicate the possibility of a variance in development. Generally, administration of a screening tool would be the first step in determining the strong and weak areas in a child's development.
An assessment tool is "more lengthy, of an indepth nature, and analyzes the problem and makes differentiations not (based) on screening results." [2] Thus, the assessment tool, in most cases, assists the professional to pinpoint more exactly the needs of the child so that work can begin with the family in developing a treatment program.

5.1.3 List at least two advantages to administering the screening or assessment tool in the home as opposed to the clinic setting.

1. Parents' presence - valuable input
2. In familiar setting, child more likely to exhibit typical behaviors
3. Home visitor can observe relevant environmental factors found in home which contribute to effective programming.

5.1.4 Explain the rationale that the professional or student must have a knowledge of growth and development prior to administering screening and assessment tools to developmentally disabled children.

The professional must know the sequence of normal development and growth before he can tell deviation from it.

5.1.5 List at least two tools which could effectively be utilized in the home setting to screen for delays in development. Discuss the age, purpose and areas screened of each of the tools.

1. Denver Developmental Screening Test
   Age: 2 weeks to 6 years
   Purpose: Used to detect developmental delay among infants and preschoolers
   Areas Screened: Personal/Social, Fine Motor/Adaptive, Language, Gross Motor

2. Developmental Screening Inventory
   Age: 4 weeks to 36 months
   Purpose: Screening instrument for infant behavior
   Areas Screened: Adaptive, Gross Motor, Fine Motor, Language, Personal/Social

3. NCHS Growth Grids
   Age: Birth to 18 years
   Purpose: Analyze growth patterns of a child
   Areas Screened: Height, Weight, Head Circumference

5.1.6 List at least two tools which could effectively be utilized in the home setting to assess the child's developmental functioning level. Discuss the age, purpose, and areas screened of each of the tools.

1. Callier-Azuza Scale
   Age: Generally birth to 4 years. Cognitive Developmental Subscale covers 0-2½ years.
   Purpose: Designed specifically to aid in assessing deaf/blind and multi-handicapped children.
   Areas Screened: Motor Development, Perceptual development, Daily Living Skills, Cognition, Communication and Language, Socialization

2. Early Intervention Developmental Profile
   Age: 0-36 months
   Purpose: Depicts developmental status of exceptional infants in six areas of development
   Areas: Perceptual/Fine Motor, Cognition, Language, Social/Emotional, Self-Care Skills, Gross Motor

3. Milani-Comparetti Gidoni Developmental Chart
   Age: Birth to 2 years
   Purpose: Designed to evaluate child's physical development; can provide early evidence of neuromotor delay or deficits in the child with mental retardation or cerebral palsy.
   Areas: Spontaneous Behavior, Evoked Responses

* * * * * * * *

References

1. Olion, LaDelle and Rodabaugh, Jeraldine. A Selected Listing of Instruments for Screening and Assessment. Bibliography for Preschool Children with Handicaps. The Head Start Technical Assistance and Management System, Chicago, p. 2.
2. Ibid

SCREENING TOOLS

DENVER DEVELOPMENTAL SCREENING TEST (DDST)

W. Frankenburg and J.B. Dodds, 1967

DENVER DEVELOPMENTAL SCREENING TEST (DDST)

W. Frankenburg and J.B. Dodds, 1967

Publisher: Ladoca Project and Publishing Foundation, Inc.
East 51st Avenue and Lincoln Street
Denver, Colorado 80216

Purpose: This instrument may be used to detect developmental delay among infants and preschoolers

Age: 2 weeks to 6 years

Application: This instrument was created for use by medical professionals as well as non-professional health workers for early identification of developmental delay. It may be used for all children who function below the 6-year-old level.

Screening/Assessment: The test includes 105 tasks or items which are divided into four different areas. Skills in each area are assessed by direct observation or parent report. It is assumed that they cover the basic areas of development and the specific skills normally acquired by children. The four areas include:

1) Personal/Social (self-care abilities and ability to relate to others)
2) Fine-Motor Adaptive (use of hands and ability to solve non-verbal problems)
3) Language (ability to hear, carry out commands and speak)
4) Gross Motor (ability to sit, walk and jump)

Standardization: The test was standardized on 1036 Denver Caucasian children between the ages of 2 weeks and 6.4 years. Of the total tested, 543 were male and 493 female. All children with high risk of developmental abnormalities were excluded (premature babies, twins, breech deliveries, or those with gross physical defects). Subjects were selected through private pediatricians,

well baby clinics, schools, churches, and labor union auxilaries. The distribution of subjects was felt to reflect racioethnic and occupational group characteristics of the Denver population (according to the 1960 census).

Reliability: Inter-rater reliabilities reported by Frankenburg and Dodds (1967) range from 0.66 - 0.95. Test-retest reliability ranges from 0.66 - 0.95.

Validity: A parallel study of the correlation of DDST scores with the various developmental measures (Yale Developmental Schedule, Stanford-Binet, Cattell Infant Intelligence Scale, and Bayley Scales of Infant Development) yielded correlations between .74 and .97.

"The format of the Denver Developmental Screening Test was devised to present all the normative data for the total sample in a graphic manner so that the user can quickly compare an individual child's performance with that of the children on whom the items were standardized. Each item is represented by a horizontal bar placed along an age continuum. Various points on the bar represent the specific ages at which 25 percent, 50 percent, 75 percent, and 90 percent of the sample of children pass an item. The test form has each item arranged along the same continuum in one of four categories: gross motor, fine motor-adaptive, language, and personal-social." [1]

The manual which accompanies the DDST explains the test form, administration, and scoring of the test. It examines each of the tasks and gives examples of how to assess the child's ability to accomplish the task. Initially, an age line is drawn on the form which takes into account prematurity. This age line will give reference on where to begin the test and how to score it. The test should commence with items below the age of the child and work up to his age (to the right) until three failures have been scored. Each item is scored with a "P" for pass, "F" for failure, "R" for refusal or "N.O." for no opportunity for the child to perform the item.

It is suggested that the test be initiated with the Personal-Social section to familiarize the child with the tester (many items may be passed by report from this section). It is recommended that the child next be tested in the Fine-Motor Adaptive area so that by the time the Language area is administered, the child will feel more at ease with the tester. It is best to give the Gross Motor section last so that the child will not be too stimulated from the hopping, jumping, and/or throwing of the ball to complete the remaining sections of the exam.

A "delay" is any item failed which is completely to the left of the age line. Thus, an item is failed which 90% of the children normally pass at a younger age. Test results are abnormal if two sections have two or more delays, one section has two or more delays and, in the same section, the age line does not go through an item that is passed. The child should be retested in one month if the first test is abnormal.

The amount of time required to administer the DDST is 30 minutes or less. The screening tool .... "is designed for use by people who have not had special training in psychological testing." [2] It would be appropriate for any professional who is working with children in any health care system. When delays are discovered, a more indepth assessment of the child's functioning should be made. At such time, one of the following assessment tools, which is reviewed in this manual, may be considered for use: The Callier-Azuza Scale, the Early Intervention Developmental Profile and/or Home Observation for Measurement of the Environment.

The Denver Developmental Screening Test has the advantage of being inexpensive, quick and easy to administer and should be considered a practical, efficient and dependable device for use in screening children for delay. The manual which accompanies the tool is very valuable because it is easy to understand and explicit with regard to scoring guidelines. "The authors caution against using the DDST as a diagnostic tool and recommend close observation of qualitative aspects of test behavior in relation to motivation, dependency or hostility between mother and child, examiner-child interaction, and maintenance of optimal and standard testing conditions." [3]

* * * * * * * *

References

1. Frankenburg, William, and Dodds, Josiah. "The Denver Developmental Screening Test." Journal of Pediatrics, Vol. 71, No. 2, August 1967, p. 183.
2. Frankerburg, William F., et al. Denver Developmental Screening Test Manual, 1970, Introduction page.
3. Ritchie, Bonnie, et al. Manual of Assessment Tools for the MR/DD Population, Nisonger Center on Mental Retardation and Developmental Disabilities, Columbus, Ohio, 1978, p. 15.

DEVELOPMENTAL SCREENING INVENTORY (DSI)

H. Knobloch, B. Pasamanick, E. Sherard, 1954

DEVELOPMENTAL SCREENING INVENTORY (DSI)

H. Knobloch, B. Pasamanick, E. Sherard, 1954

Publisher: Division of Child Development
Dept. of Pediatrics and Dept. of Psychiatry
The Ohio State University
College of Medicine
Columbus, Ohio 43210

Purpose: The Developmental Screening Inventory is designed as a screening instrument for infant behavior.

Age: 4 weeks to 36 months

Application: "By asking some questions of parents, observing the infant's behavior and recording this information systematically, an estimate of the level of function in various areas of behavior can be made which correlates very highly with the maturity age assigned on the basis of a complete Gesell Developmental Neurologic Examination, from which the items are adapted." [1]

Screening/Assessment: The inventory is primarily a screening tool.

Areas Screened: The inventory is administered to 20 different age groups during the first 36 months. There are 4-week divisions through the age of 56 weeks. The areas screened include:

1) Adaptive
2) Gross Motor
3) Fine Motor
4) Language
5) Personal/Social

Standardization: Standardization procedures are based on those used for the Gesell Scale. The DSI had not, itself, been standardized.

Reliability: No data available

Validity: No data available

* * * * * * * *

Reference

1. Knoblach, H., Pasamanick, B. and Sherard, E. A Developmental Screening Inventory, 1954, Columbus, Ohio, p. a.

When using the Developmental Screening Inventory, the home visitor utilizes information gained through both observation of the infant (recorded in "O" Observed Column) and the history of the infant's behaviors as related by the parents (recorded in "H" Column). In a variety of situations an infant may perform a task routinely at home, but not be able to duplicate it when asked to by a professional. Therefore, it is significant that information the home visitor records may be the result of actual observation or history. The home visitor should initiate the test at chronological age of the child (i.e., if a child is 15 months old, begin with the 15 month block of activities). If many of the answers are negative, the home visitor should drop back to a lower age level and work up to the child's chronological age. The home visitor should continue to ask questions at progressively more advanced ages until no more positives are obtained. It is significant to note that an infant may be slow in one area and normal in the other. Consequently, administration could conceivably span two or three designated time categories.

Observations should be recorded as (+) present, (-) absent, or (x) unknown. In each of the areas of adaptive behavior, gross motor, fine motor, language, personal/social, maturity levels (in weeks or months) are assigned based on a clinical judgement of the age levels obtained from history and observations. Finally, a diagnostic category is determined, based on the age levels and will be either (a) abnormal, (Q) borderline, or (N) normal.

Administration of the inventory can be accomplished in 30 minutes or less and does not require any special training in psychological testing. It is a quick and useful instrument for screening problem areas in the young child's development. The involvement of parents in obtaining data regarding the child is viewed as a positive interaction for both the professional and the family working in a home-centered care situation. It is important to note, however, that the DSI should not be used as a diagnostic tool at any time. When delays are discovered, a more indepth assessment of the child should then be done. The reader is referred to the assessment tools reviewed in the following section of this manual.

NUTRITION/FEEDING SCREENING

NUTRITION/FEEDING SCREENING

A complete nutritional and/or feeding assessment of a child is a complex and time consuming undertaking. There are many aspects of the child's feeding and nutritional environment and status, however, that the professional may effectively screen while in the home. If she knows how to look for problem areas, she may be able to detect where and when a complete nutritional assessment is warranted. The professional in the home should inquire about and observe feeding sessions. By watching interactions, valuable information may be obtained. Does the child have problems with sitting comfortably at meal times or closing his mouth and chewing properly? Is he properly positioned for feeding? Does he eat foods which do not seem appropriate (i.e. large quantities of milk or pureed foods at an older age)? These and other factors should all be cues to the professional that the child may need screening of his nutritional status.

When the professional believes that the child and family require additional help with feeding/nutrition, she should refer the family to a qualified dietitian or nutritionist who will be able to help them with identified problem areas.

The number of screening tools designed specifically for children who have developmental disabilities is few. Consequently, modifications of existing nutrition screening tools have been made by nutritionists for use with this population. (It is noteworthy that a nutritional screening tool is being developed at Nisonger Center for use with preschool-aged children.) Although there may be various methods utilized in obtaining information regarding the child's feeding and nutritional status, the following is a list of important concerns which the professional from any discipline should observe or question about while in the home:

1. Child's positioning during eating sessions and his oral functioning
2. The child's self-feeding skills
3. The manner in which the child adapts to various textures of food
4. Information concerning special diets the child may be following

5. Unusual eating or mealtime habits which the child has
6. Problems the child experiences with elimination
7. Variety of foods the child has in his diet
8. The child's growth pattern

NCHS GROWTH GRIDS

National Center for Health Statistics, 1976

Publisher: Ross Laboratories
Columbus, Ohio 43216

Purpose: This instrument is used over a period of time to analyze the growth patterns of a child.

Age: Boys: Birth to 36 months (at one-month increments)
2 to 18 years (at half-year increments)
Girls: Birth to 36 months (at one-month increments)
2 to 18 years (at half-year increments)

Application: Use of this tool for nutritional screening is based upon the premise that if a child is consuming the proper amounts and types of nutrients, he will grow at a genetically predetermined rate. Thus, accurate periodic measurements of the child are made and recorded by the professional over a period of time. The information obtained will aid in the detection of a child who is potentially "at risk" nutritionally.

Screening/Assessment: NCHS growth grids are used to analyze the growth pattern of an individual. Growth patterns of an individual are affected by genetics and the individual's nutritional makeup. When growth rate is inappropriate, the individual should be referred for an indepth nutritional assessment.

Areas Screened: Areas screened include: height, weight, and head circumference.

Standardization: Boys and Girls - birth to 24 months. Data was collected from the Research Institute concerning 867 children who were followed longitudinally from birth. Not every child was measured at every age, but 700 to 800 children were measured at birth, 1 month, 2 months, 6 months, 9 months, 1 year, 1½ years, 2 years, 2½ years, and 3 years.
Boys and Girls - 2 through 17. Information was obtained

from three cycles of surveys including Health Examination Surveys II and III and Health and Nutrition Examination Surveys (Hanes). In all, 20,000 children were measured. However, the bulk of this material was entirely cross-sectional. No child contributed measurement data on more than one occasion. [1]

Validity of Sample Population Used: "All HES cycles make use of a nationwide probability sample of the population designed jointly by the NCHS and the United States Bureau of Census. This makes it possible to obtain the desired information efficiently and in such a manner that the statistical reliability of results is determinable. These factors, together with a fact that the examination and measurement processes are highly standardized and closely controlled, enabled the results of the surveys to describe the entire population of the U.S. on the basis of relatively small samples." [2]

Reliability of Growth Curves: "All of the variables are displayed as seven smoothed percentile curves: 5, 10, 25, 50, 75, 90, and 95. A least-squares-cubic-spline technique was used for curve smoothing. Identical curves can be generated on any large digital computer with plotting capability. The carefully documented information in the form of coefficients at various ages is contained in a deck of 308 computer cards that can be supplied by NCHS." [3]

Information obtained from accurate measurements is recorded on the growth grid. Length (in. or cm.), weight (Kg. or lb.) and head circumference measurements (in. or cm.) are plotted on the vertical axis and age is plotted on the horizontal. Percentiles show the age at which 5, 10, 25, 50, 75, 90 and 95% of the standardized population reach a specified height, weight, or head circumference. In addition, a specific graph plots length of the child (on the horizontal axis) against weight (on vertical axis).

The professional should attempt to obtain all previous growth measurements available from school, family, or medical records. This information is then plotted on an NCHS growth grid. Data should be interpreted according to the child's individual growth pattern or curve. It is more significant to monitor the direction of several plottings than an isolated recording.

Use of the NCHS growth grid will be helpful only in so far as it reflects accurate information. Precise measurements must be obtained to provide accurate information. It is essential that proper equipment and techniques be utilized when measurements are obtained. Equipment appropriate for use in the clinical setting may not necessarily be equipment that is appropriate for the home setting.

The following is a list of equipment used to obtain measurements which would be appropriate for use in the home setting:

1) Steel or plastic measuring tape (paper should never be used since it may stretch)
2) Headboard (when available) for use with children under the age of three
3) Wooden block, squared at right angles or hard-bound book
4) Bathroom scale which has periodically been checked for accuracy.
5) Infant scale (when available) for use with children under the weight of 30 lbs.

I. Obtaining Height or Length Measurement

A. Children under age of 3, or those over the age of 3, who cannot stand erect must be measured for recumbant length.

1. Headboard procedure. (A headboard is a measuring board with rule screwed down on one or both sides and a rigid, moveable footboard.) The child lies on his back on the measuring board. One person holds the crown of his head against the headboard. The other person holds both ankles with one hand and places the child's heels firmly against the footboard. The footboard is manipulated with the other hand. The measurer should be certain that the child's legs are fully extended. The child should be measured twice to insure accuracy.[4]

2. Procedure when headboard is not available. The child should be lying on a firm, flat surface with the top of his head flat against the wall (select a wall that does not have molding on the bottom). Take the child's ankles with one hand and place the child's heels firmly against a flat block or book. Care should be given that the child is fully relaxed when the measurement is taken. If the knees are flexed there will be deviation in the measurement. Next, lay the steel or plastic tape parallel to the child, placing the tip at the head and measuring to the heel of the foot, or top of the block or book. (It may be necessary to have a second person, perhaps Mother, assist in the process.) Measurements should be made twice to insure accuracy.

B. Children three years of age or older who are able to stand erect should be measured standing up.

"To measure the height of children a flexible steel or plastic measuring tape is attached to a door frame or wall. A block which is squared at right angles with the leveler also is utilized. The child, shoes removed, stands on a horizontal bare floor in a comfortably erect position with heels, lower back, shoulders or rear of heel touching against a vertical wall or door frame. The block is lowered to make firm contact with the scalp. Measurements are read to the nearest ½ cm. Measurements are made twice for each child and should be within ½ cm. of each other. The child is asked to step away from the wall after each measurement." [5]

II. Measuring Weight

A. Children less than 13.6 Kg (30 lbs.) should be measured with an infant scale. The scales should be balanced prior to each use. All of the child's clothing is removed and the child is then placed on the scale and the weights are recorded. Two weights should be obtained to insure accuracy. The scale should be checked periodically to insure their accuracy.

B. Children over 13.6 Kg (30 lbs.) may be weighed on a conventional bathroom scale. The professional must be certain that the scales are accurate. This may be accomplished by checking them against a beam scale. The child should be instructed to remove all his clothes but underpants. Two weights should be obtained to insure accuracy. (When a child will not stand on the scale, the professional or mother should weight themselves, record it, and then weigh the child with himself. The first weight should then be subtracted from the second to equal the child's weight.)

III. Measuring Head Circumference

For this measurement, a flexible narrow steel or plastic tape (½" wide) should be used. "The tape is applied firmly around the head above the supraorbital ridges or the most prominent part of the frontal bulge, anteriorly, and over that part of the occiput which gives maximum frontal-occipital circumference. Measure in duplicate to the nearest ½ cm." [6]

With practice, each professional who visits clients in the home setting should be able to obtain accurate measurements. The actual time involved in taking the measurements, recording them, and plotting them on the graph should be under ten minutes.

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ASSESSMENT TOOLS

EARLY INTERVENTION DEVELOPMENTAL PROFILE

S. Rogers, D. D'Eugenio, S. Brown, C. Donovan, E. Lynch, 1977

EARLY INTERVENTION DEVELOPMENTAL PROFILE

S. Rogers, D. D'Eugenio, S. Brown, C. Donovan, E. Lynch, 1977

Publisher: University of Michigan
Publication Distribution Service
615 E. University
Ann Arbor, Michigan 48109

Purpose: The profile depicts the developmental status of infants in six areas of development.

Age: 0-36 months

Application: This instrument was created for children with all types of handicaps who function below the 36-month age level.

Screening/Assessment: This instrument can provide an in-depth picture of a child's functioning in a variety of areas and should be considered an assessment, rather than a general screening tool.

Areas Assessed: Perceptual/Fine Motor Development
Cognition
Language
Social/Emotional Development
Self-Care Skills
Gross Motor Development

Standardization: This profile has not been standardized. The authors assigned items to specific age ranges on the basis of standardization norms of other well-known developmental instruments or original sources (i.e., Piaget).

Reliability: Inter-rater reliability was examined using a tester-observer paradigm. The mean percent of agreement between the tester and the nine observers (all trained raters) was 89%. Correlations between initial test scores after three and six months for 15 children was uniformly high (above .93).

Validity: The authors established concurrent validity by correlating each of the six scales with the Bayley Mental and Motor Scales, Vineland, REEL, and clinical motor evaluations. Coefficients for all scales were generally high. The consistency of handicapped infants performance across all scales ranged from .59 among the language, self-care, and gross motor scales to .95 between the cognition and social/emotional scales.

The Early Intervention Developmental Profile is Volume 2 of a three-volume set entitled Developmental Programming for Infants and Young Children. Volume 1, Assessment and Application, contains a detailed test item description and scoring procedures for each item listed in the profile.

> "An item passed by the child is marked with a P if the criteria are met. When there is a question as to whether the child has fully met the criteria for an item, a pass-fail (PF) should be used to indicate the emergence of the skill measured by that particular item. Clear failures are marked by an F. A final scoring category, O, is used to signify that an item has been omitted by the evaluator because of intervening variables which should be described in the scoring box." [1]

Volume 1 also contains information concerning the administration of the instrument and actual program development based upon results yielded by the profile. The authors suggest that a brief observation of the child's motor function precede any actual administration of individual items on the profile. If motor abnormalities exist which may affect the child's performance on the profile, any necessary relaxation and/or positioning techniques can then be utilized to aid the child. It is recommended that the assessment begin with administration of the perceptual/fine motor and cognition scales, since children appear to be particularly interested by the items on these scales.

> "Since young children tire easily in a structured situation, it is critical that the child's range of functioning on each of the scales be quickly determined and that items within that range are adequately covered. This process is facilitated by beginning with an open-ended activity which is scorable at several levels. The use of 1-inch colored cubes is suggested for two reasons. First, they are generally interesting to the child whose spontaneous handling of the cubes often provides scorable responses. Second, because cube items exist at almost every age level on the profile, the child's highest level of success on cube items will give the tester a guide

> as to which age ranges should be explored ..... Various items should be administered using the same toy as long as the child is interested, and materials should be changed in order to maintain the child's attention." [2]

The child may spontaneously vocalize throughout the assessment. Therefore, the language scale should be administered later in the assessment and any vocalizations occurring earlier in the assessment can be recorded as they occur. "Items from the social/emotional and self-care scales can be administered whenever a break for either child or parent is needed during the assessment." [3] The gross motor scale is best administered last because children often become either quite active at this time or upset and it may be difficult to reestablish the rapport needed for further evaluation.

The program development section of Volume 1 describes several aspects and components of behavioral objectives and "discusses the development of objectives based on assessment results from the Early Intervention Developmental Profile." [4] In addition, this section includes information concerning activity planning for the individual child based on the developed behavioral objective. Guidance on altering activities for specific handicaps is provided for those who may be assessing a population which includes severely damaged children.

Volume 2 is the Early Intervention Developmental Profile. It's contents include the 274 item profile of development in the six previously identified areas, a list of necessary materials and a profile graph.

> "The child's performance can be plotted on the profile (graph) by marking the highest number of consistently passed items in each of the six areas and then connecting the marks. The resulting graph provides a visual representation of the child's relative strengths, weaknesses, and general developmental level."[5]

Assessment with the Early Intervention Developmental Profile can be accomplished within one-and-one-half hours. The authors state that the profile should be administered by a multidisciplinary team or an experienced evaluator. It is felt

that with some time spent in familiarization with the tool, assessment can be done by an individual home visitor from a variety of disciplines. Several items contained in the gross motor scale require that the evaluator have some knowledge of early reflexive development. However, the item descriptions contained in Volume 1, Assessment and Application, clarify procedures for administering and scoring those particular items.

The third volume of this set is entitled Stimulation Activities and contains activities for young children which provide appropriate play and enrichment experiences. Volume 3 "is designed for use by professionals who are training parents of children with developmental delay, chronic illness, and defined mental, motor or sensory handicaps to become actively involved in their child's treatment program." [6] This model is particularly applicable to the role in which the home visitor functions.

Stimulation Activities is a source of ideas for carrying out the specific behavioral objectives which have been developed for an individual child and family. Each of the activities included pinpoints a specific area of development (i.e., object permanence) within each assessment area (i.e., cognition) and also identifies a short term goal for the child who does the activity (i.e., child will look at the place where a moving object has just disappeared). Beneath each of the activities is a key which describes an adaptation of the activities due to a child's handicap and the appropriate teaching method for the given short term goal.

Caution should be exercised when using the data yielded by the profile. Profile data yield a general estimate of developmental level and therefore should not be used when diagnoses or accurate (e.g. specific) developmental level is required. This assessment, however, provides more detailed information about reflexive and cognitive development than most infant assessment tools.

The tool provides a natural progression from assessment of the child to formulation of behavioral objectives to development of home activities. The professional or student who administers the tool should be confident of his ability to

interpret results and subsequently plan proper activities. Consequently, when used appropriately, and by a qualified individual, there may not be a need for referral to specific disciplines except at the discretion of the evaluator.

The Early Intervention Developmental Profile and the three-volume set, Developmental Programming for Infants and Young Children, is an excellent resource for use by home visitors. It is a comprehensive and easily understood package which provides not only for an indepth assessment of children with a variety of handicapping conditions, but has the additional feature of providing useful information concerning formulation of behavioral objectives and the development of home activities. The activities are designed to involve the parents in the child's training and, as such, are well suited to the programming goals of the professional involved in home-centered care.

* * * * * * * * *

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THE CALLIER-AZUZA SCALE (CAS)

R. Stillman, F Edition, 1977

THE CALLIER-AZUZA SCALE (CAS)

R. Stillman, F Edition, 1977

Publisher: Robert Stillman
University of Texas/Dallas
Callier Center for Communication Disorders
1966 Inwood Road
Dallas, TX 75235

Purpose: This instrument is a criterion-referenced developmental scale which was designed specifically to aid in the assessment of deaf/blind and multi-handicapped children.

Age: Birth to 4 years of age, with the exception of the Cognitive Developmental Subscale, which covers only the sensorimotor period (0-2½ yrs.). Some items are included up to nine years of age on several of the individual scales.

Application: This scale is a good developmental tool for use with children for whom other methods of assessment are unappropriate or inadequate due to the child's handicap.

Screening/Assessment: This instrument can provide an in-depth picture of a child's functioning in a variety of areas and should be considered an assessment rather than a general screening tool.

Areas Assessed:

- Motor Development: (Subscales) Postural Control, Locomotion, Fine Motor, Visual Motor
- Perceptual Development: (Subscales) Vision, Auditory, Tactile
- Daily Living Skills: (Subscales) Dressing, Personal Hygiene, Feeding, Toileting
- Cognition, Communication and Language: (Subscales) Cognition, Receptive Language, Expressive Language, Speech Development
- Socialization: (Subscales) Socialization, Self-concept

Standardization: Approximate age equivalencies were obtained from a variety of sources in the child development literature.

Reliability: No data available.

Validity: No data available.

Administration of the Callier-Azuza Scale is based upon observation of behaviors which typically occur within a classroom setting. To begin the assessment, a base step must be established for the child on an individual subscale. A child has attained a specific step (base step) on a subscale if the behaviors he exhibits are .....

> "..... integrated components of the child's behavior repertoire. The behaviors must be spontaneously appearing and appropriately generalized. A child has not attained a step if the behaviors described are emerging, occur only infrequently, occur only after prodding and coaxing, or occur only in specific situations and are not generalized to other appropriate situations." [1]

In addition, the child should have exhibited the integrated behaviors described in all preceding steps. The authors note that although some early behaviors are expected to disappear, it will be necessary for the home visitor to determine if the current behaviors are based on the integration of appropriate early behaviors and are not examples of splinter skills acquired by the child. When the base step has been established, the child's behavior on later steps in the subscale should be observed.

The authors caution that the scale must be administered by someone who is thoroughly familiar with the child's behavior and recommend that a child be observed for at least two weeks before the assessment takes place. When the Callier-Azuza is used for home programs, the individual doing the assessment "must be certain that adequate opportunity has been provided for the observation of the child's typical spontaneously occurring behaviors." [2]

Due to the comprehensiveness of the tool, assessment of a child in all areas would be time consuming and might not be accomplished in an hour-and-a-half. Although completion of the assessment within this time frame is possible, it is recommended that the home visitor clearly identify an approximate starting place within each subscale. It may also be necessary to schedule the assessment during more than one home visit. Although the Callier-Azuza Scale was designed for use by teachers within the classroom setting, it is felt that it can be administered

by home visitors representative of a variety of disciplines without extensive training in its use.

The home visitor who sees primarily a population of young children who are developmentally disabled will find this tool valuable because it was designed for assessment use with deaf-blind and other severely and profoundly handicapped children.

A useful feature of the Callier-Azuza Scale are certain items which are starred and begin with "May." "These items may be omitted for a specific child only if the child cannot be expected to exhibit the behavior because of a specific sensory or motor deficit (e.g. totally blind, nonambulatory). It is the responsibility of the observers to decide if attainment of specific starred items is appropriate for an individual child." [3] Pass/fail directions are vague in some instances. The test relies strongly on the examiner to determine pass/fail scoring and referral. Additional reflex testing might be necessary to supplement the Callier-Azuza.

The assessment is divided nicely into subscales that are very important when dealing with a developmentally delayed child. A wide range of developmental items are presented in each section, thus allowing thorough evaluation of children who may vary greatly in different areas. In addition, the criterion-referencing format of the Callier-Azuza Scale eliminates comparison of an individual child to the "norm" and instead, emphasizes the child's progress. It should be noted that this tool is designed to be more comprehensive at lower levels than at upper levels. Since the scale is continually undergoing revisions (the Cognitive Development subscale was added in this current F edition), it is possible that additional items (or subscales) will be added at the upper levels.

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2. Ibid, p. 4.
3. Ibid, p. 5.

THE MILANI-COMPARETTI, GIDONI DEVELOPMENTAL CHART

A. Milani-Comparetti, E. A. Gidoni, 1967

THE MILANI-COMPARETTI, GIDONI DEVELOPMENTAL CHART

A. Milani-Comparetti, E. A. Gidoni, 1967

Publisher: Refer to article:
Milani-Comparetti, A. and Gidoni, E.A. "Routine Developmental Examination in Normal and Retarded Children," Developmental Medicine and Child Neurology, Vol. 9, 1967.

Purpose: This developmental chart was designed to evaluate a child's physical development. It can provide early evidence of neuromotor delay or deficits in the child with mental retardation or cerebral palsy.

Age: Birth to 2 years.

Screening/Assessment: The chart should be considered a rapid screening instrument which can compliment other standardized tests of infant behavior.

Areas Screened:

- Spontaneous Behavior: Basic motor development which includes the child's ability to control his head and body and the child's capacity to actually move from one position to another.
- Evoked Responses: Child's responses to certain stimulus conditions imposed by the examiner for the elicitation of reflexes.

Standardization:
Reliability:
Validity:

There is no normative data available. The items on the chart have been selected from Gesell, Bobath, Illingworth, and Prechtl, etc.

Administration of the Milani-Comparetti, Gidoni Developmental Chart should begin with observation of spontaneous postures and motor behaviors. The results of this observation are recorded on the top half of the chart labeled "Spontaneous Behavior." Next, certain stimulus conditions are imposed for elicitation of reflexes and the child's responses are recorded on the bottom half of the chart, labeled "Evoked Responses." "Entries on the chart are made by writing the (child's) chronological age in months beneath the functional finding indicated at the head of the columns." [1]

After recording the child's behavior in this manner, the results can then be read and the following patterns designate whether the finding is normal or indicative of mental retardation or motor dysfunction.

1. Vertical alignment of the annotations consistent with the child's chronological age indicates normalcy;

2. "Motor retardation of the type associated with mental deficiency usually appears as a homogenous shift towards the left - that is to say, the motor performance comes to correspond to a lower chronological age but the vertical alignment is approximately maintained;"

3. "A wider scattering of the findings is usually a sign of a more severe or possibly a more specific motor dysfunction, as seen in cerebral palsy." [2]

The examination and recording procedure should take an experienced observer approximately two to three minutes. Unless the individual possesses some occupational or physical therapy skills, however, it is likely that administration and scoring process will require a more extended period of time.

The Milani-Comparetti, Gidoni Developmental Chart is included in this manual because it offers a graphic picture of the correlation between functional motor achievement and a child's underlying reflex structure. Unless the home visitor has some background in neuro-developmental treatment, it is felt that some difficulty may be encountered in administration and/or

interpretation of the results for programming purposes. If consultation with individuals with this background and training is possible, the home visitor can find the chart a valuable instrument for use with children who have developmental disabilities.

A manual of testing procedures for the Milani-Comparetti, Gidoni Developmental Chart has been developed at the Meyer Children's Rehabilitation Institute. The manual includes extensive descriptions of positions in which to place the child and also some developmental information about when to expect certain responses from the child. This precise information regarding expectations facilitates appropriate referral for treatment. In addition, some minimal information concerning recording responses is included. The authors of the manual also recommend a 16-millimeter color training film (see bibliography) demonstrating procedures for administration which is available from either:

United Cerebral Palsy Associations, Inc.
66 E. 34th Street
New York, NY 10016

or

Meyer Children's Rehabilitation Institute
University of Nebraska Medical Center
444 S. 44th Street
Omaha, NE 68131

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1. A. Milani-Comparetti and Gidoni, E.A. "Routine Developmental Examination in Normal and Retarded Children," Developmental Medicine and Child's Neurology, Vol. 9, 1967, p. 635.
2. Ibid.

HOME OBSERVATION FOR MEASUREMENT OF THE ENVIRONMENT (HOME)

B. Caldwell, 1970

HOME OBSERVATION FOR MEASUREMENT OF THE ENVIRONMENT (HOME)

Bettye M. Caldwell, Robert H. Bradley and Staff, 1980

Publisher: Dr. Bettye M. Caldwell
Robert H. Bradley
Center for Child Development and Education
University of Arkansas at Little Rock
33rd and University Avenue
Little Rock, Arkansas 72204

Purpose: This inventory provides a framework for systematically and objectively collecting information about the characteristics of a young child's environment that might affect cognition and emotional development.

Age: Infant Inventory (0-3 years)
Preschool Inventory (3-6 years)

Application: This tool can be used to assess any home or child care environment.

Areas Assessed:

Infant Inventory

1. Emotional and verbal responsibility of mother
2. Avoidance of restitution or punishment
3. Organization of physical and temporal environment
4. Provision of appropriate play materials
5. Maternal involvement with child
6. Opportunities for variety in daily stimulation

Preschool Inventory

1. Stimulation through toys, games and reading materials
2. Positive social responsiveness
3. Physical environment: safe, clean and conducive to development
4. Pride, affection, warmth
5. Stimulation of academic behavior
6. Modeling and encouragement of social maturity
7. Variety of stimulation
8. Physical punishment

Standarization: Infant and Preschool Inventory

HOME Inventory (0-3) assessments of 171 Little Rock families of infants and toddlers were used to calculate the mean, standard deviation, and standard error measurement for each of the HOME (0-3) subscales in the total HOME score (117 families for the Preschool). Home environment of male and female children differed very little.

Reliability: Infant Inventory

The total mean score increased over two points from the six-month assessment to the 12-month assessment, and another point between the 12-month and the 24-month assessment. Intraclass correlations computed determined the HOME's stability to be acceptable. Factor analysis performed on the new 45-item Inventory was found to be similar to that done on the 72-item Inventory.

Preschool Inventory

Internal consistency estimate for the total scale was .93. Stability was estimated utilizing data from 33 families when children were 3 years and again at 4½. These coefficients range from r=.05 to r=.70 pointing to the need for continued assessments of the same household over a period of time.

Validity: Infant Inventory

Six, 12 and 24-month HOME data from 91 families were compared to six SES variables. Correlations remained consistent at a moderate level with a slight increase at the 24-month period. Various levels of HOME scores were also compared with Bayley MDI, Stanford-Binet and ITPA scores. These correlations appear to be moderate.

Preschool Inventory

In comparisons made between the HOME and five SES indices, the highest observed correlation (r=.65) was between maternal education and the subscale Toys, Games and Reading Material. The rest were negligible to modest. HOME scores are found to be significantly related to IQ scores (.58) and SRA achievement test scores (r=.51 to r=.58).

The Home Observation for Measurement of the Environment is divided into two separate inventories: an infant inventory of home stimulation for children who are birth to three years of age and an inventory of home stimulation for preschool children who are three to six years of age.

The infant inventory consists of 45 items and the preschool inventory lists a total of 55 items. The 55 item preschool inventory reflects a recent revision of the inventory made by the authors. They stress that reference be made to this 1980 preschool inventory as the "'current' version rather than the 'final' version of the Inventory, as we are not likely ever to consider the development finished. Were we to do so, our work might become 'static' rather than 'in process' - - - and those who know the conceptualization behind the HOME know that we believe strongly in the value of process as opposed to status appraisal." [1]

All items from both HOME Inventories are individually explained in detail within the Administration and Scoring section of Home Observation for Measurement of the Environment Monograph (Caldwell, Bradley and Staff, 1980, available from publisher's address on page 52). Scoring on the HOME is done by placing a "yes" or "no" (based on observation and parental response during the interview) in the appropriate box, which follows each item. When the instrument is used clinically, interviewers can jot down brief notes on the form and note their general impressions during the visit. The authors point out several facts concerning scoring which the home visitor should keep in mind:

1. " .... all observation items refer to the contemporary situation - - i.e., to conditions that prevail at the time of the visit. The time period covered by the interview items varies but is clear from the content of the item."

2. "The present form of the Inventory includes two subscales which together cover the first six years of life. Some items on each scale are more appropriate for the younger half than the older half of this age range, or vice versa.

3. "In those instances an attempt has been made to give the item a certain amount of stretch by working it so as to encompass characteristic activities of both younger and older children. Change during the first few years of life is so dramatic that some such flexibility in the interpretation of items was essential." [2]

The HOME Inventories provide space for recording subscores (total "yes" or "no" items within each of the subscales) and a total score. A cover sheet provides space for transcribing all raw scores for the subscales and then computing both a total raw score and a percentile band placement.

The interview can be accomplished in a home visit of about an hour's duration, and the visitor will find that it can easily be completed in the time span of one home visit. Concerning training of the individual using the HOME, the authors state that besides being familiar with the items in the inventory, the individual making the home visit should be a good interviewer. They further state that .....

> ".... a good interviewer is a person who can be at ease herself or himself in the situation, can put the mother or caregiver at ease, can easily adjust subsequent questions to answers given by the mother, and can ask questions in such a way to avoid putting the informant on the defensive and thereby to second-guess the interviewer as to what is the 'right' or 'expected' response. (The) goal is to be objective and accepting, as opposed to approving or disapproving. This is essential if (the interviewer wants to) find out how this person feels and what she does with her child rather than what she may think (the interviewer) wants her to say." [3]

The authors do not specifically mention one type of professional training required of an individual before administration of the HOME other than the preceding reference. One of the reasons for this, perhaps, is the detailed information provided in the Administration section of the Home Observation for Measurement of the Environment Monograph. The information contained within this section can be extremely valuable to a

home visitor using the HOME because it can provide answers to many questions. Content includes making arrangements for the visit, conducting the interview, areas covered in the interview, wrap-up of the interview, exceptions to standard procedures, scoring, and some miscellaneous questions and answers. Each of these content areas is dealt with specifically and in detail.

Important to the professional using the HOME is an understanding of the basic rationale behind the tool and the use for which it is intended. There is no intent on the part of the authors to use the score on the HOME to identify "good" or "bad" parents or a "good" or "bad" home environment. The authors address the issue of possible cultural and SES bias in item selection by including the following in their monograph:

> "Is this (e.g. administration of the HOME) an elitist procedure? It certainly looks like one, does it not? One could say that the scale measures nothing but money and wealth and that the home of the poor child would definitely be penalized. To a large extent, that is true: however, it is not entirely true. For example, several factors have to do with toys and materials provided by the parents to help children learn and with whether the family provides what we colloquially call "cultural" experiences for their children. There is no doubt that such things tend to be associated with higher family incomes and with higher education. But higher income and higher parental education tend to be associated with favorable development in children and we could not have designed an effective inventory that ignored such things.
>
> But we would like to stress again that every attempt was made to include items that represent stimulation and support but do not necessarily mean money, social status, or education. Thus, from the standpoint of the Inventory, a trip to the grocery store gets as much credit as a trip to an art museum, in that both are likely to be interesting, informative, and stimulating to a young child.

> Users of the Inventory are urged to remember this and not accuse the developers of the instrument of elitist tendencies which automatically discriminate against one group or another. Taken collectively the items in this Inventory are designed to reflect this elusive condition that we refer to as a "quality life" for children. Original item selection was based on a review of the literature of research findings associated with favorable development in young children. Probably a quality life for children requires considerable financial outlay, and probably it also requires a certain level of consciousness-raising in parents about the kinds of experiences which will favorably influence the course of development of their children. However, our intent was to put together a set of items that described the quality of the home environment available to a young child, not to offer any value judgment about whether these characteristics are good or bad for children (or families, or for the total society)." [4]

In addition, it is critical that the parents be made aware of this fact and that the true purpose of the assessment be understood by both the family and the individual using the tool.

> "As a teaching tool, however, the HOME serves to foster more appropriate interpersonal interactions between parents and children. It can help parents feel more potent and confident about their parental abilities to provide an environment that is responsive to their child's individual needs, as well as their own. Used properly, the Inventories can be valuable in reassuring parents about their unique capabilities to determine the child's readiness for new or different stimuli. It can be a helpful guide in selecting appropriate learning experiences that correspond with the child's level of development. Used for the purpose it was created, the HOME can focus on both the child's changing needs, as well as the parents' resourcefulness in meeting these ongoing needs." [5]

It is suggested that the individual involved in home-centered care who uses the HOME with a given family be careful about forming judgemental opinions about the home environment based on the results yielded by some of the items on the HOME. For instance, it is quite possible that in a low-income family a child may not have three or more books of his own (Infant Inventory, Item 45). The home visitor should avoid using this information in a negative manner, but should approach it in a constructive, positive way. For example, the parent can be given suggestions about inexpensive home-made books which can provide excellent stimulation for a young child.

It is further essential that visitors using the HOME be aware that one assessment in the home is not sufficient to determine adequacy of the environment. This tool will be used most appropriately in conjunction with other developmental assessment tools.

> "By using the inventories on a serial basis, changes in the environment can be observed in a systematic and reliable manner. Parents can be offered valuable feedback on a more objective, concrete basis and can be assisted in seeing the changes they were able to implement. Changes in the child's development can be documented as well." [6]

No criteria for referral to other agencies or disciplines is described in the manual. Referral to other resources must be at the discrimination of the professional administering the tool.

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SCREENING AND ASSESSMENT TOOLS	Age	Administration Time	AREAS																					
			Adaptive	Anthropometric	Cognition	Communication	Language	Daily Living Skills	Self Care	Fine Motor/Adaptive	Fine Motor	Perceptual/Fine Motor	Perceptual	Gross Motor	Home Environment	Personal/Social	Socialization	Social/Emotional	Spontaneous Behavior	Evoked Behavior	Standardization	Reliability	Validity
SCREENING TOOLS																								
Denver Developmental Screening Test	2 wk to 6 yr	30 min					X			X				X		X					Yes	Yes	Yes
Developmental Screening Inventory	4 wk to 36mo	30 min	X				X				X			X		X					No	No	No
NCHS Growth Grid	0-18 yr	10 min		X																	Yes		
ASSESSMENT TOOLS																								
Callier-Azuza Scale	* 0 to 4 yr	**			X	X	X	X					X	X			X				No	No	No
Early Intervention Developmental Profile	0 to 36 mo	30 min			X		X		X			X		X				X			No	Yes	Yes
Home Observation for Measurement of the Environment	0-3 3-6 yr	1 hr													X						Yes	Yes	
Milani Comparetti Gidoni Developmental	0-2 yr	5 min																	X	X	No	No	No

*Cognitive Developmental Subscale (0-2½ yrs.); other individual scales included to 9 yr.
** Administration of Callier Azuza Scale may require more than 1½ hour.

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